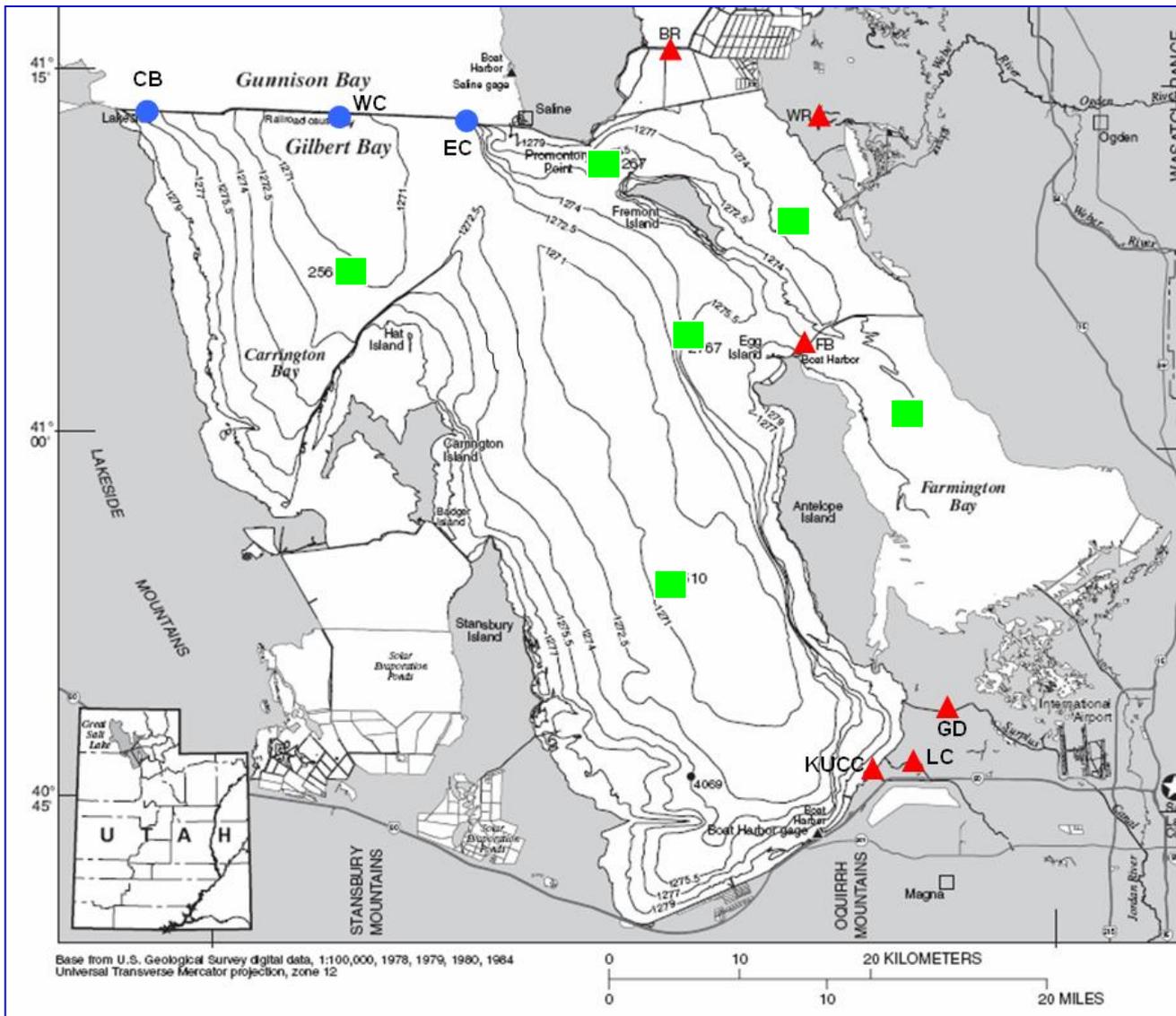


USGS Tasks for Mercury Work on Great Salt Lake

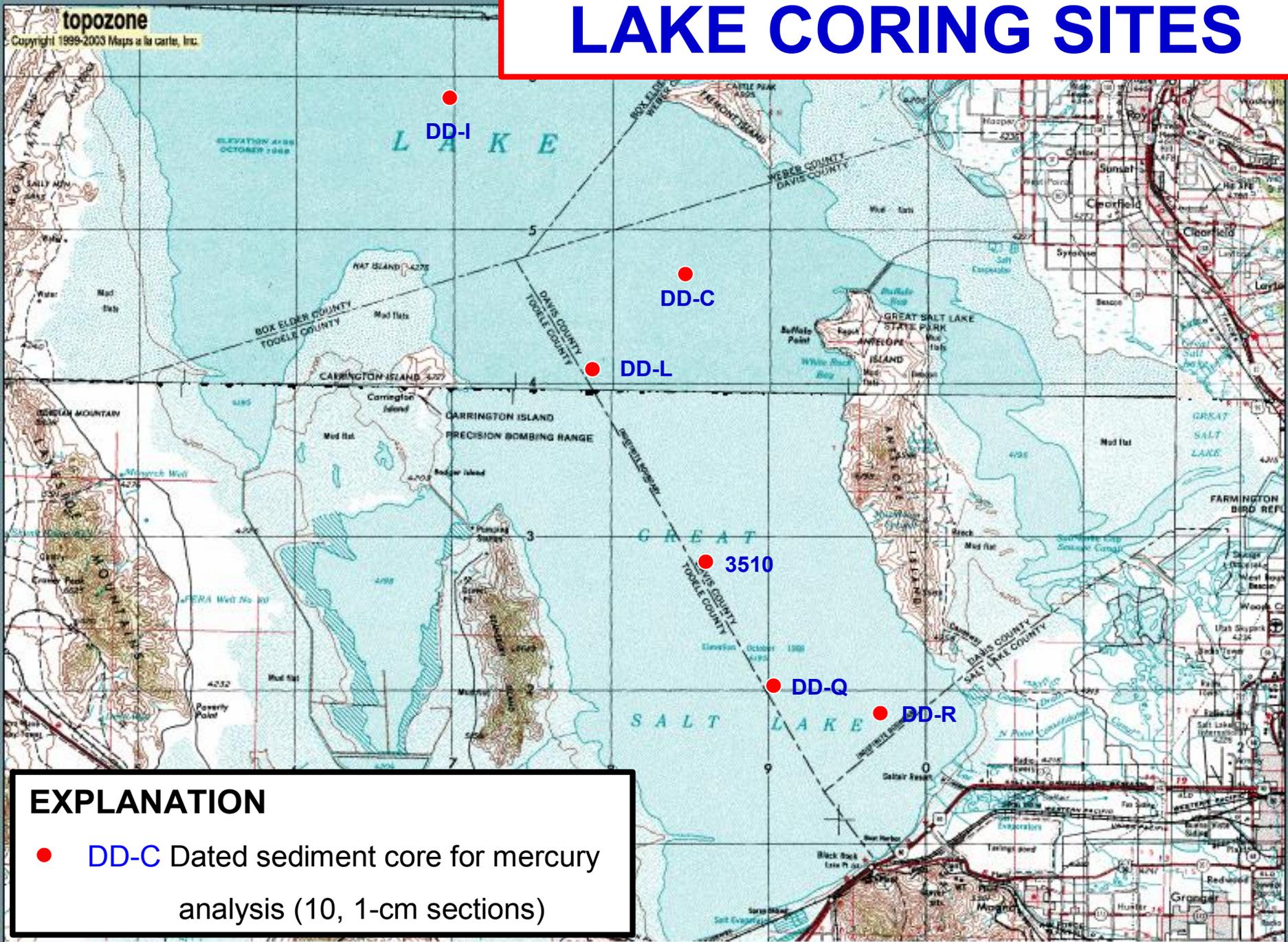
- ◆ Mercury in open water of GSL
- ◆ Mercury input to GSL from rivers and streams
- ◆ Reconstruction of historic mercury inputs
- ◆ Mercury cycling in wetlands adjacent to GSL

SW MONITORING PROGRAM



- ▲ Continuous discharge site
- Lake/bay site
- Intermittent discharge site

LAKE CORING SITES



EXPLANATION

- DD-C Dated sediment core for mercury analysis (10, 1-cm sections)

LAKE CORE ANALYTICAL SCHED.

Coring site	Detailed core chronology	Number of samples for total and methyl mercury analysis	Date of sample collection	Date of sample submittal for mercury analyses
GSL 3510	Yes	10	July 2006	May 2007
DD-I	Yes	10+	July 2007	September 2007
DD-C	Yes	10+	July 2007	September 2007
DD-L	Yes	10+	July 2007	September 2007
DD-Q	Yes	10+	July 2007	September 2007
DD-R	Yes	10+	July 2007	September 2007

ANALYTICAL TESTING OF LASER ABLATION ICP-MS

We are currently testing the analytical feasibility of analyzing the yolk material contained within individual brine shrimp cysts for mercury and selenium. If successful, this will provide us a potential method to reconstruct Hg and Se bioaccumulation factors over the past 150 years (i.e. baseline vs. anthropogenic)

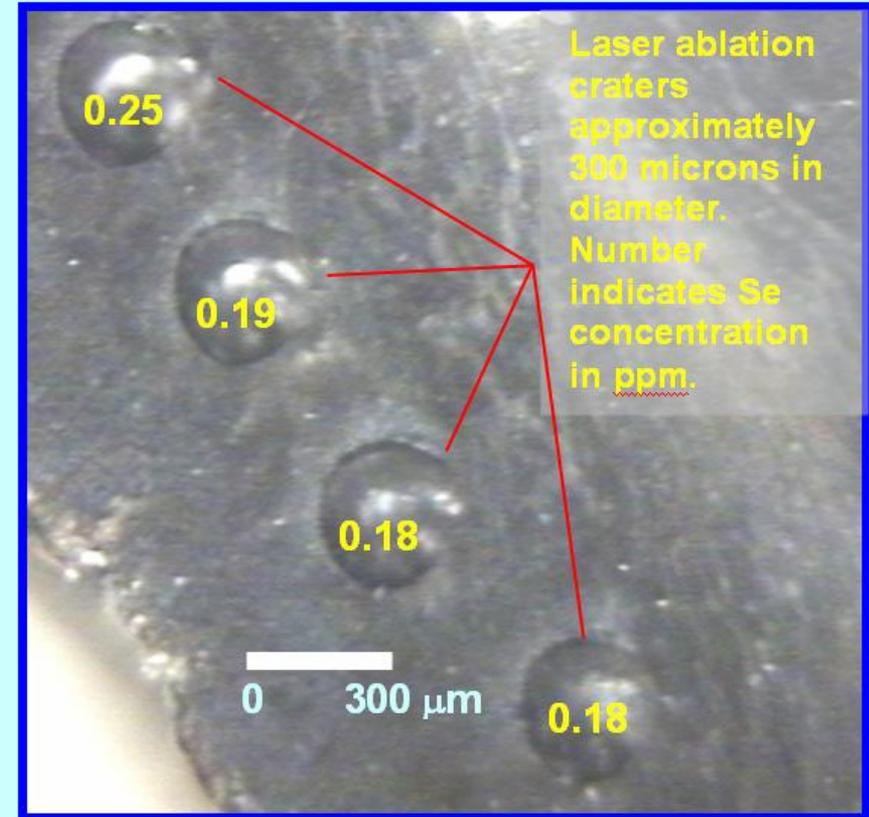
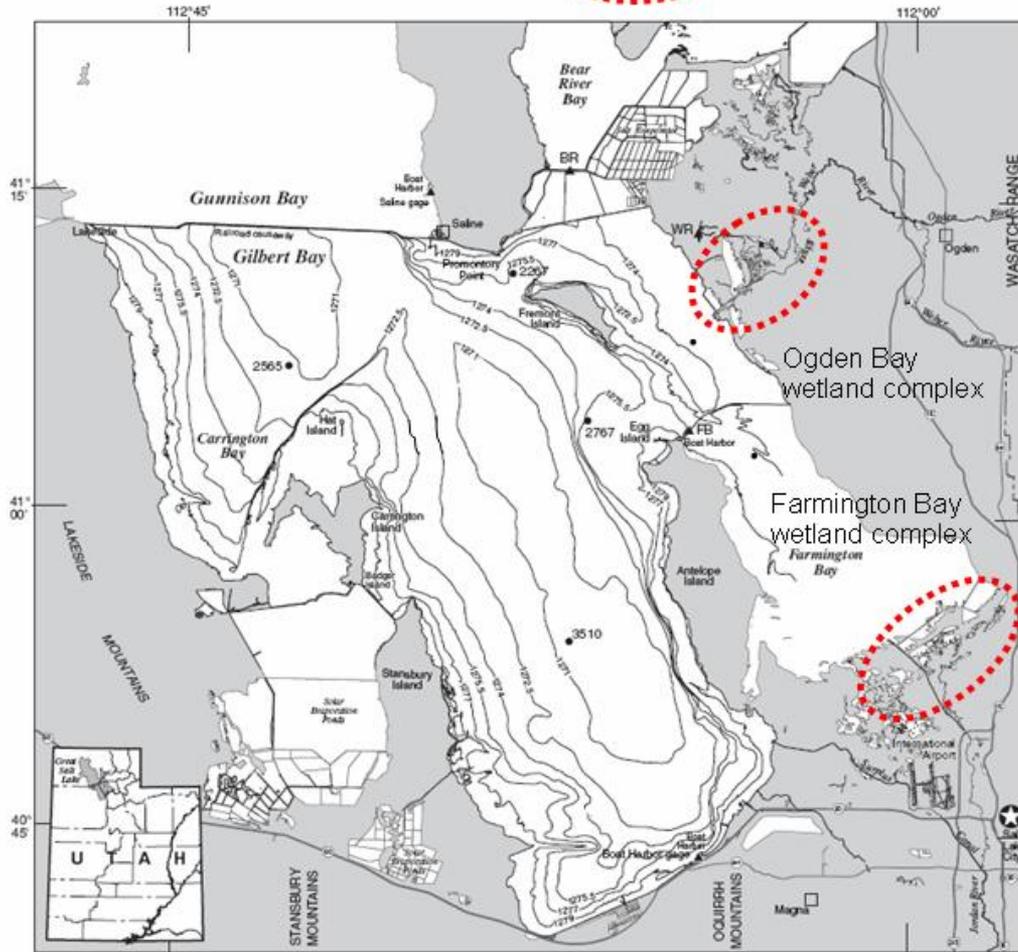


Figure 2. Four laser ablation craters created during multi-element chemical analysis of a Bighorn Sheep horn collected from a herd in the Wind River Range, Wyoming.

GSL WETLAND SAMPLING SITES

 Bear River Bay wetland complex



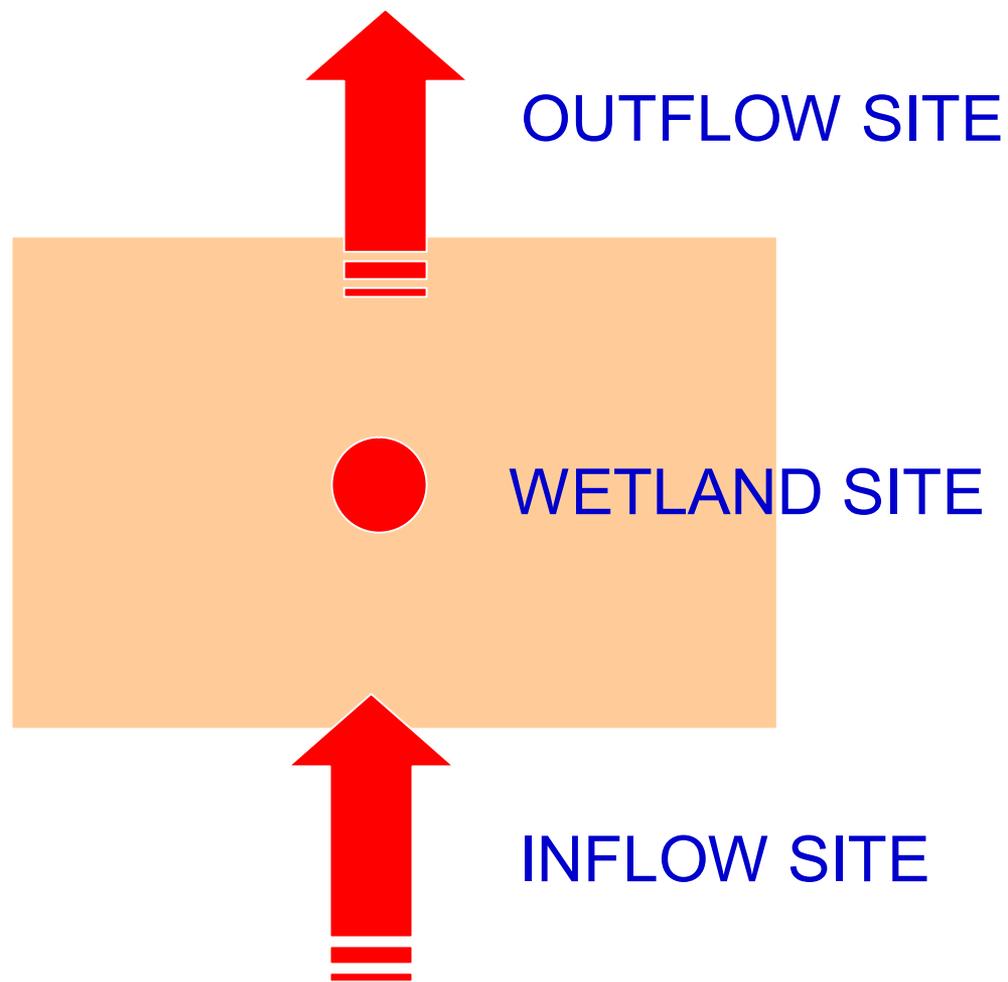
Base from U.S. Geological Survey digital data, 1:100,000, 1978, 1979, 1980, 1984
Universal Transverse Mercator projection, zone 12

0 10 20 KILOMETERS
0 10 20 MILES

GSL WETLAND COMPLEX MONITORING SCHEDULE

Site Location	2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4
Bear River wetlands (3 sites)						1	2	2				
Farmington Bay wetlands (3 sites)						1	2	2				
Ogden Bay wetlands (3 sites)						1	2	2				

WETLAND COMPLEX SAMPLING SCHEMATIC



WETLAND COMPLEX SAMPLING PARAMETERS



Bottom sediment: (total and methyl Hg, TOC)

Water: (total and methyl Hg, DOC, field parameters)

Discharge: (total and methyl Hg masses into and out of wetland complexes)